

**REMARKS**

Claims 1-5, 8-9 and 11-17 are all the claims pending in the application. Claims 1, 4 and 8 have been amended and claims 6-7 and 10 have been canceled.

Claims 1 and 8 have been amended to further define the cleaning layer as comprising a polyimide resin which is heat-resistant based, for example, on claims 6 and 10 and page 24, second paragraph, of the specification.

Claim 4 has been amended for purposes of clarity based, for example, on page 33, second full paragraph of the specification, and the amendment is directed to form only.

Entry of the above amendments is respectfully requested.

**I. Response to Rejection of claim 4 under 35 U.S.C. § 112, second paragraph**

Claim 4 is rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Specifically, it is the Examiner's position that the phrase "an adhesive layer provided on the side opposite to the adhesive layer" in claim 4, lines 2-3 is not clear.

Without acquiescing in the merits of the rejection, claim 4 has been amended based on, for example, page 33, second full paragraph. Accordingly, it is respectfully submitted that claim 4 is definite and that it complies with 35 U.S.C. §112. Thus, withdrawal of the rejection is respectfully requested.

**II. Response to Rejection of Claims 1, 3-8 and 10 under 35 U.S.C. § 103(a)**

Claims 1, 3-8 and 10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Iwabuchi et al. (US Patent No. 6,703,121).

Applicants respectfully traverse the rejection.

Independent claim 1 is directed to a cleaning sheet comprising a cleaning layer comprising a polyimide resin which is heat-resistant, and a releasable protective film laminated on the cleaning layer, wherein each of the relative intensities of the fragment ions of  $\text{CH}_3\text{Si}^+$ ,  $\text{C}_3\text{H}_9\text{Si}^+$ ,  $\text{C}_5\text{H}_{15}\text{Si}_2\text{O}^+$ ,  $\text{C}_5\text{H}_{15}\text{Si}_3\text{O}_3^+$ ,  $\text{C}_7\text{H}_{21}\text{Si}_3\text{O}_2^+$ ,  $\text{CH}_3\text{SiO}^-$ ,  $\text{CH}_3\text{SiO}_2^-$  and  $\text{Si}^+$  in the cleaning layer, when the protective film is peeled off the cleaning layer, is 0.1 or less according to time-of-flight secondary ion mass spectrometry, relative to  $\text{C}_2\text{H}_3^+$  in the case of positive ion or  $\text{O}^-$  in the case of negative ion.

Independent claim 8 is directed to a carrying member with a cleaning function, comprising a carrying member and a cleaning layer comprising a polyimide resin which is heat-resistant provided on at least one side of the carrying member, wherein each of the relative intensities of each of the fragment ions of  $\text{CH}_3\text{Si}^+$ ,  $\text{C}_3\text{H}_9\text{Si}^+$ ,  $\text{C}_5\text{H}_{15}\text{Si}_2\text{O}^+$ ,  $\text{C}_5\text{H}_{15}\text{Si}_3\text{O}_3^+$ ,  $\text{C}_7\text{H}_{21}\text{Si}_3\text{O}_2^+$ ,  $\text{CH}_3\text{SiO}^-$ ,  $\text{CH}_3\text{SiO}_2^-$  and  $\text{Si}^+$  in the cleaning layer is 0.1 or less according to time-of-flight secondary ion mass spectrometry, relative to  $\text{C}_2\text{H}_3^+$  in the case of positive ion or  $\text{O}^-$  in the case of negative ion.

The Examiner considers Iwabuchi as disclosing the cleaning sheet of claim 1 and the carrying member with a cleaning function of claim 8. It is the Examiner's position that Iwabuchi fails to disclose the relative intensities of the claimed fragment ions in the claimed values, i.e. 0.1 or less. However, the Examiner asserts that one of ordinary skill in the art would have reasonably expected the relative intensities of the fragment of ions in the adhesive layer to be within the claimed values when a non-silicone release agent is used, i.e., there would be no fragment ions remaining on the adhesive layer of Iwabuchi.

Applicants respectfully disagree.

Iwabuchi relates to an adhesive sheet for precision electronic member. Iwabuchi discloses an adhesive sheet for a precision electronic member having an adhesive layer on one face of a base sheet, and a release sheet on the adhesive layer. *See* col. 4, lines 25-28 and lines 58-59 and Example 1. The adhesive layer is formed from an adhesive comprising an acrylic copolymer, which comprises alkyl(meth)acrylate having 4 or less carbon atoms in an alkyl group and vinyl acetate as essential monomers. *See* col. 2, lines 23-26. The Examiner considers the adhesive layer of Iwabuchi as corresponding to the cleaning layer of claims 1 and 8.

However, Iwabuchi does not disclose, teach or suggest that the adhesive layer contains a polyimide resin which has heat-resistant, as required in claims 1 and 8.

Hence, Iwabuchi fails to teach or suggest all of the elements of claims 1 and 8.

In view of the above, it is respectfully submitted that claims 1 and 3-8 are patentable over Iwabuchi, and withdrawal of the rejection is respectfully requested.

**III. Response to Rejection of Claims 1-10 under 35 U.S.C. § 103(a)**

Claims 1-10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Suzuura et al. (US Patent No. 6,066,404).

Applicants respectfully traverse the rejection.

The Examiner considers Suzuura as disclosing the cleaning sheet of claim 1 and the carrying member with a cleaning function of claim 8. In addition, it is the Examiner's position that Suzuura fails to disclose the relative intensities of the claimed fragment ions in the claimed values, i.e. 0.1 or less. However, the Examiner asserts that one of ordinary skill in the art would

have reasonably expected the relative intensities of the fragment of ions in the adhesive layer to be within the claimed values when a non-silicone release agent is used.

Applicants respectfully disagree.

As discussed above, the cleaning layer of claims 1 and 8 comprises a polyimide resin which is heat-resistant.

Suzuura relates to a packaging clean film and packaging pouch. Suzuura discloses a packaging clean film comprising a base structure having a heat-sealing layer forming an inside layer and an inner protective layer removably laminated to the inside surface of the base structure. *See* col. 1, lines 54-57. The Examiner considers the base layer 2 as corresponding to the cleaning layer of claims 1 and 8.

As discussed above, the cleaning layer of claims 1 and 8 comprise a polyimide resin which is heat-resistant.

Suzuura does not disclose, teach or suggest the use of a polyimide resin which is heat-resistant. Specifically, Suzuura discloses various materials that can be used as the base layer, such as an oriented nylon film (ONy film), an oriented nylon film with vinylidene chloride film, a polyethylene terephthalate film (PET film), a polyethylene terephthalate film with vinylidene chloride film (KPET film), a film of a saponified ethylene vinyl acetate (EVOH film), a polyvinylidene chloride film (PVDC film), an aluminum foil, a PET film coated with an inorganic oxide by evaporation, a PET film coated with aluminum by evaporation, and laminated films formed by laminating some of those films by dry lamination. *See* col. 15, lines 11-19. In addition, Suzuura discloses that the base layer can also be a film or sheet of various known resins including polyolefin resins, polyvinyl chloride resins, polyvinylidene chloride resins,

polystyrene resins, polyacrylic resins, polyacrylonitrile resins, polyester resins, polyamide resins, polyurethane resins, polyaminoplast resins, alkyd resins, unsaturated polyester resins, diarylphthalate resins, phenol-formaldehyde resins, epoxy resins, polyimide resins, polycarbonate resins, polyvinyl alcohol resins, saponified ethylene vinyl acetate copolymers, fluorocarbon resins, vinylon resins and polyacetal resins. *See* col. 20, lines 32-51. Thus, Suzuura discloses at least 31 materials that can be used as the base layer.

However, there is nothing in Suzuura that would motivate or lead one of ordinary skill in the art to specifically select a polyimide resin from the various materials disclosed to the exclusion of the other materials. In addition, to arrive at the claimed subject matter, not only does one of ordinary skill in the art must select a specific material, i.e., a polyimide resin, from the various materials, but also must specifically select a polyimide resin which is heat-resistant. There is no disclosure in Suzuura that provides such motivation.

Thus, Suzuura fails to teach or suggest all of the elements of claims 1 and 8.

In view of the above, it is respectfully submitted that claims 1-5-9 are patentable over Suzuura, and withdrawal of the rejection is respectfully requested.

#### **IV. Conclusion**

For the foregoing reasons, reconsideration and allowance of claims 1-5, 8-9 and 11-16 is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

**AMENDMENT UNDER 37 C.F.R. §1.111**  
**U.S. Application No. 10/823,654**

**Attorney Docket Q81096**

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